ABSTRACT
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Title of diploma thesis: Synthesis of tetrazole derivatives as potential antituberculotics

Tuberculosis is a widespread infectious disease; however, no substances were introduced to the clinical practise during the last decade. In this diploma thesis, a series of potential antitubercular substances based on 1-substitued-5-alkyl/arylsulphanyl-1*H*-tetrazole were prepared.

First, we prepared two compounds, 5-[(1-phenyl-1*H*-tetrazole-5-yl)sulphanylmethyl]-1*H*-tetrazole and 5-[(1-phenyl-1*H*-tetrazole-5-yl)sulphanyl]-1*H*-tetrazole, as the main building blocks, which were further functionalized.

5-[(1-phenyl-1*H*-tetrazole-5-yl)sulphanyl]-1*H*-tetrazole was substituted by methyl, propyl and benzyl groups on the terminal tetrazole ring. The same substitutions were performed with 5-[(1-phenyl-1*H*-tetrazole-5-yl)oxymethyl]-1*H*-tetrazole, which had already been prepared in our laboratory.

Furthermore, we prepared 5-[(2-methyl-1,3,4-oxadiazole-5-yl)methylsulphanyl]-1-phenyl-1*H*-tetrazole, 5-[(2-methyl-1,3,4-oxadiazole-5-yl)sulphanyl]-1-phenyl-1*H*-tetrazole and 5-[(2-methyl-1,3,4-oxadiazole-5-yl)methoxy]-1-phenyl-1*H*-tetrazole from the corresponding tetrazoles by their reaction with acetanhydride.

The final prepared substance was 2-ethoxy-5-phenyl-1,3,4-oxadiazole by the reaction of 5-phenyl-1*H*-tetrazole with ethyl chloroformate.

The antituberculotic activities of the prepared substances, which were obtained in crystalline form, were evaluated. Although our substances did not show significant antituberculotic activities, this thesis described several unexpected reactions and products that might be useful in further studies.